intellectually at least, of a very superior order of beings. So ends my rigmarole; and, as Fraser, or some of his writers, would have said, "be that will not subscribe to its truth is a dissenter worse than a pagan."

Yours very truly,
Newcastle-on-Tyne, 10th June, 1843. GEORGE WALHEIM.

DWELLINGS OF THE POOR.

TO THE EDITOR OF THE BUILDER.

DEAR SIR,—It has often struck me most forcibly that the attempts of philanthropic exertion for alleviating the condition of the humbler classes of society, have hitherto commenced at the wrong end. It generally seeks, by charitable aid, moral instruction, and religious education, to attempt to change habits which are too strongly confirmed to be altered by conviction. Equally impotent is the attempt made by juvenile instruction, when the objects of their philanthropic care are restored to old associations and habits. It is a truth too strongly confirmed in my opinion, that a great cause of the continuous moral pollution of the poor, is owing to the great neglect paid by their landlords and the better classes, to their domestic comforts, condition, and enjoyments, and particularly to the state of their dwellings, in which so much of their domestic happiness consists.

If one of the chief arguments in support of the extension of public parks and places of out-door recreation, is, that the health, morals, and comfort of the poor shall be consulted, how essential is it, that the counteracting causes at home may be removed! Contrast the personal appearance of the artizan, seeking such healthful recreation with his wife and family (or peradventure his sweetheart), not only in the glow of health, but the pride of cleanliness, and the decorous competition in dress, with him who, spends his leisure moments (unhappily too few for the toil-worn son of care and labour, with the exception of the Sabbath) sequestered in this dirty abode, in an atmosphere laden with smoke, and impregnated with all kinds of noxious effluvia, emanating from the decomposition of every variety of animal and vegetable substance. The one is industrious, prudent, and frugal, whilst the other is, if industrious, in all probability reckless and improvident. He who finds enjoyment in out-door recreation must of necessity belong to the former, because his wages could not have been squandered, or his wife and family would not have been so well dressed; whilst the latter having no such inducements to attention to personal appearance, this is neglected, and his wages are probably spent in dissipation, whilst he possesses no stimulus to industry. Apart from the consolations afforded by religion, the appearance of those who frequent the sacred sanctuary is from the same cause very different from those who neglect its attendance. In either instance, however, follow the individuals to their abodes, and view them in their domestic circles. In the one, every thing is as clearly as their person, and in the other as negligent, and the comforts of their abodes denote that this is no small essential in the distinction. There is no person who is not influenced by the example of either good or evil, and the same may be said in their exhibition of the pride of clothing, and their desire of propriety and cleanliness, when opportunity is afforded for its exhibition.

The dwellings chiefly inhabited by the poorer classes in London, and indeed in every large town in the country, are in districts which have long been vacated by more wealthy tenantry. These have become the seats of manufactories, diffusing immense quantities of smoke, to the deterioration of the atmosphere, but an equal evil exists in their not having partaken of those improvements which have materially benefited the health, comfort, and condition of their more prosperous neighbours. The propriety of ventilation and drainage is now universally acknowledged; but whilst our main streets have benefited by such knowledge, the state of the smaller ones has been left unheeded. Wherever a new street has been constructed, attention has been paid to secure a proper width, but the poorer neighbourhoods are left unaltered. Our larger streets have benefited by all the advantages of drainage, but the smaller ones still remain the open depositories of mud, filth, and every variety of garbage, decomposing upon the surface, and emitting noxious gases, which are either themselves the extensive cause of epidemic and contagious diseases or form the media of the extensive propagation and diffusion of the most injurious miasma. The atmosphere in our larger streets, thus deprived of an extensive source of its deterioration, is further purified by the free circulation of air through their ample ranges, as well as by the wholesome influence of the evaporation of the water with which the streets are watered, whilst our smaller ones partake of neither of these advantages. Whilst improvements have been thus successfully introduced to the benefit of the richer classes, the interests of the poorer have in every way been neglected. Whilst every attention has been secured to the advantages and benefit of the former class, the latter has been left exposed to all the disadvantages of former days, when medical jurisdiction or chemical science was so little known or understood. It is also obvious to all who have occasion to traverse the humbler streets, that, although occupied by rate-payers, the paving is in many cases equally neglected.

But an investigation into their abodes presents still more striking contrasts. The rich have every opportunity, from the size of their rooms and the attendance of their domestics, to ensure their ventilation and their cleanliness, by which their purity is so essentially secured. The latter have not the opportunity of the former; their limited rooms are tenanted by many individuals, breathing an atmosphere which becomes soon polluted from the effects of respiration, as well as the distribution of the noxious exhalations given off in the various domestic processes performed in this restricted abode, whilst but little facility is afforded for exercising cleanliness where leisure permits and inclination prompts. But equal to all is the general condition of the water-closets, which, from their noxious state, countenance filth, and not unfrequently engender disease; one of these alone is, frequently all that is afforded for the accommodation of the inhabitants of a whole court or district. I will yet go a step lower, and point out the condition of those districts inhabited by persons who from vice or necessity have been reduced to the most pitiable condition of all existence, and who are compelled to become denizens of the lowest spots in the vicinity of St. Giles's, Saffron-hill, Seven-dials, Wentworth-street, Drury-lane, &c. In these abodes of misfortune, poverty, and crime, the evils I have alluded to are as noxious to the unhappy inmates, as many of those are to society. They distribute a pestilential evil to the constitution as extensive as the latter do to the community. In their lowest lodging-houses (or indeed in superior ones of the same class) numbers are huddled together in one room creating a most pestilential atmosphere; and in the majority of cases no means are afforded for cleanliness. No wonder then at the abject physical appearance and state of the wretched mendicants and paupers, or still more miserable creatures who are incentives and inducements to vice and crime, who daily issue from these miserable resorts.

Amongst the most prominent objects to which the generosity and exertion of the philanthropic could be devoted at the present time, there is one which I think might be carried on very successfully and with great benefit to the poor; I allude to providing them with good houses or accommodations. This, which would precede the march of improvement, now so strongly insisted upon, and being carried into effect by the legislature and other public bodies in our different large towns, would not fail to be profitable in a pecuniary point of view. It is well known that with all the miserable accommodation afforded, there are no higher profits derived from the rental of houses than those inhabited by the very poorest classes of the community. Such would not fail to prefer the additional accommodation and comforts afforded in other houses, and the respectability or integrity of the tenants would be ensured by making them a premium as in granting allotments to the agricultural labourer in the agricultural districts. Each apartment should be commodious, and where new buildings are constructed, or old ones altered for the purpose, they should be provided with a range for all culinary processes, containing a boiler and oven, thus affording every opportunity for the preparation of a variety of food at home. On each landing should be a cistern with a water-closet, so that the cleanliness and decency of the inmates might be equally consulted. The situation should be made as airy as possible, the walls behind the premises being limewashed, and it should be made the subject of time of dismissal from the tenement, in case of any nuisance or impropriety being committed. Each room should be supplied with one or more cupboards, a safe, and if possible a sink, and it would add to the pleasure of the inhabitants if outside the windows (which ought to be as large as possible) there should be placed a trough for planting seeds, or for placing garden pots thereon. The love of the garden seems indigenous to every mind, and nothing more than its pursuits are more congenial to its tranquillity. Were the apartments let furnished, they might be supplied with cheap, clean, and substantial furniture (iron bedsteads, for instance). A convenient place should be assigned for airing, in much better furnished than in the common lodging-houses, with the requisite implements for cookery, as well as utensils for drying and cleaning shoes, brushing clothes, &c., which, however insignificant they may appear, are yet essentials in establishing that self-dignity or honest pride by which alone we can expect to raise man in his position in society. Such amusements and simple scenes could not fail to elevate the character of man to pursuits very different from the grovelling ones which now too much characterize the poorer classes.—I have thus briefly endeavoured to point out what I consider some of the causes of some of the evils under which the poorer classes suffer, and the removal of which would not fail to increase their comforts and improve their social condition. Their adoption might be ensured either by private enterprise or public philanthropy, and the cause of religion and morality might be still further promoted by each tenement having a small library of well-selected works, periodicals, newspapers, &c., all of course of a proper tendency.

I would just add a few observations upon what I consider some of the chemical actions on the atmosphere from the decomposition of organic matters exposed to its influence. These are sulphuretted, carburetted, and phosphuretted hydrogen gases as the chief, with perhaps many others of more recondite origin. They are themselves the sources of disease, or form media for the diffusion of still more powerful poisons. They are given off from the putrefaction of various refuse substances, the accumulation of which ought therefore to be prevented; and this cannot better be done than by copious ablutions, by which they are washed away. Their accumulation in the atmosphere is prevented by a proper access and circulation of air, as well as by the genial storms and rains, which, disturbing their distribution, throw them down on the ground. This, therefore, shews the importance of securing ventilation wherever possible; and another source of the purification of the atmosphere is in the evaporation of the water so generally distributed in watering the streets, by which the concentration of gaseous matters is prevented, as they are carried up in solution higher into the atmosphere. A similar effect is seen when gases are scoured, as manifest from the more wholesome effects upon the olfactory nerves. The effect of cleanliness upon the body, in securance health, personal comfort, and convenience, is well known. Thanks to the legislature, and the general progress of public improvement, attention is now being devoted to the removal of many public and obnoxious nuisances and manufacturing processes to which I may draw your attention on a future occasion.

If you consider the subject to which I have alluded, one of any public importance, I shall be happy to give some further suggestions on a matter which I consider of some interest.

I remain, dear Sir, your obedient servant,
ANAL. BOOTH, Chemical Engineer, &c.
Willow Cottage, Putney Common,
June 5th, 1843.

CEMENTS AND OTHER COMPOSITIONS.

TO THE EDITOR OF THE BUILDER.

DEAR SIR,—The compositions of the following Cements may be known to many of your readers, but there may be also many that have not seen them: and as some of the receipts have been communicated, and others extracted, from various authors of different periods, I thought it might be considered desirable there being published in a connected form in your journal. Contributions to my note-book, I find that there are two or three of the cements above a hundred years old. In consequence, let me congratulate you on the strength that THE BUILDER has acquired, and to remain,

Dear Sir,
Yours most obediently,
CONSTANTIA.

Roof Cement.—Take half a pound of beef suet, an ounce of fine brick dust, an ounce of chalk dust or powdered chalk, sift the brick dust and chalk through a fine hair sieve, the brick and chalk may be dried in a common fender or in a shovel: let all these be boiled together in a pipkin or other earthen vessel for about a quarter of an hour, keeping it continually stirring with a piece of stick or a knife; then take it off, and let it stand for half an hour or three quarters, and it will be fit for use.

This brick cement may be laid on with a trowel, like any other cement, but it should first be laid on the tiles hot, then rubbed in upon them, and after that, to rub and fix any open crevices, after the tiles are all pointed, do what you have to do together.

Field Cement.—Take a pound of old cheese, pare off the rind and throw it by; then cut a pound of the cheese very small, put it into a pot with a pound of new milk, and a small bit of salt, and let the morning take the cream of twenty-four or thirty eggs, and a pound of the best unsalted or fresh butter, and beat all as much as possible to a thin paste; sift it in a fine sieve-cloth, put the cheese and milk to it in a pan, and mix them well together with a trowel, or such like thing, throwing into it a little of whatever of these is wet, and then add the whites of eggs, and whatever of each together, and it will be fit for use. This cement will be of a white colour; but if, as will have a bit of the cheese off, break put